

## REMARKS

After entry of the above amendments, claims 1, 2, 11, 14 and 23-44 are pending in the instant application. Claims 1, 2, 11, 23-32, 34, and 36-39 stand rejected and Claims 14, 33, 35 and 40-44 stand objected to as being dependant upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Rejection Under 35 U.S.C. § 112, second paragraph**

Claims 29-32, 37 and 38 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In particular, the Examiner asserts that the phrase “said label probe” in Claims 29 and 30 lacks antecedent basis in Claim 1. The Examiner also asserts that the phrase “said assay complex” in Claims 31 and 32 lacks antecedent basis in Claim 1. Finally, the Examiner asserts that the phrase “capture probe” in Claim 37, line 2, is not sufficiently definite in that it is unclear whether this the capture probe recited in Claim 11 (from which Claim 37 depends) or another capture probe. Applicants submit that the claims, as currently amended, are sufficiently definite and therefore withdrawal of each of the rejections under 35 U.S.C. § 112, second paragraph, is respectfully requested.

### **Rejection Under 35 U.S.C. § 102(e)(2)**

#### **(A) “Covalently Attached”**

Claims 1, 2, 11, 23-30, 34, 36, 37, and 39 stand rejected under 35 U.S.C. § 102(e)(2) as anticipated by Kayyem et al., U.S. Patent No. 6,090,933, (“Kayyem”). In particular, the Examiner has rejected Claims 1 and 23, and Claims depending therefrom, by asserting that Kayyem teaches covalent attachment of an Electron Transfer Moiety (“ETM”) to a target nucleic acid. In support of this position the Examiner argues that Kayyem teaches covalent attachment of an ETM to a probe which is subsequently hybridized to a target nucleic acid, and that this can be interpreted as covalent attachment of the ETM to the target nucleic acid.

For an anticipation rejection under 35 U.S.C. §102 to be proper, a single reference must expressly or inherently disclose each and every element of a claim. *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); MPEP § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)).

Applicants respectfully submit that the Examiner has incorrectly interpreted the term “covalently attached” by including hybridization interactions within the definition. In contrast to such a definition, the Oxford Dictionary of Biology defines “covalent bonding,” which Applicants submit is interchangeable with “covalently attached,” as “A type of chemical bond in which atoms are held together in a molecule by sharing one or more pairs of electrons in their outer shells.” *Oxford Dictionary of Biology*, E. Martin and R. Hein eds., Oxford University Press, pg. 150, 2000. (Attached hereto as Exhibit 1). In addition, the term is used throughout the specification in agreement with this meaning, for example, at page 28, lines, 31-33:

By “covalently attached” herein is meant that two moieties are attached by at least one bond, including sigma bonds, pi bonds and coordination bonds.

In no instance in the specification is “covalently attached” used to refer to the hydrogen bonding and Van der Waals forces which characterize nucleic acid hybridization. Furthermore, it is well established that the applicant may be her own lexicographer. In fact, Applicants submit that one of skill in the art would strongly disagree with the proposition that hydrogen bonding and Van der Waals forces would be included in the definition of “covalent attachment.” Accordingly, Applicants submit that the Examiner has not pointed to any disclosure in Kayyem that teaches covalent attachment of an ETM to a portion of a target nucleic acid that does not hybridize to another nucleic acid, and therefore the Examiner has failed to establish that each and every element of the amended claims are disclosed. As disclosure of the each and every element is required for a proper rejection under 35 U.S.C. § 102(e)(2), withdrawal of the instant rejection is respectfully requested.

#### **(B) “Recruitment Polymer”**

The Examiner has also rejected Claims 2, 11, 24-27, and the claims depending therefrom, by asserting that Kayyem teaches each and every element of the claims. In particular, the

Examiner cites Figures 29A, 29B and 32B as teaching attachment of a single ETM to a label probe via non-nucleosidic linkers.

The standard for a rejection under 35 U.S.C. § 102(e)(2) is discussed above.

The Examiner has not pointed to any disclosure in Kayyem that teaches covalent attachment of a plurality of ETMs to a recruitment polymer, thus the Examiner has failed to establish that each and every element of the currently amended claims are disclosed. As disclosure of the each and every element is required for a proper rejection under 35 U.S.C. § 102(e)(2), withdrawal of the instant rejection is respectfully requested.

## CONCLUSION

On the basis of the amendments and remarks presented herein, Applicants believe that this application is now in condition for immediate allowance. Applicants respectfully request that the Examiner pass this application to issue, and early notice of such is requested.

Respectfully submitted,

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